

REMARKS

Claims 36-45 are pending in the present application. Claims 36 and 41 have been amended as a result of this response. Claims 36 and 41 are independent.

CLAIM OBJECTION

Claim 41 has been objected to under 37 C.F.R. § 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant has been instructed to cancel the claim, amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form.

Based on the conversation with Examiner Patrick Wamsley of March 30, 2004, Applicant has rewritten dependent claim 41 into independent form. Based on the conversation with Examiner Wamsley, Applicants were instructed that such an amendment would not raise new issues which would require further consideration and/or search.

MINOR AMENDMENT TO CLAIM 36

Applicant has made a minor typographical change to independent claim 36. Applicant respectfully submits that this claim does not raise new issues which would require further consideration and/or search.

35 U.S.C. § 102(b) HEIKKILA REJECTION

Claims 36-42 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,805,093 to Heikkila et al. This rejection, insofar as it pertains to the presently pending claims, is respectfully traversed for the following reasons.

Applicant respectfully submits that independent claims 36 and 41 recite a "...signal amplitude increases progressively along the signal path away from the input." Applicant respectfully submits, that in an example embodiment, this feature helps solve the problem of avoiding instability by adjusting signal gains.

In contrast, although Heikkila solves the same problem of avoiding instability, Heikkila solves the instability via the introduction of a global feedback. However, Heikkila fails to teach or suggest a signal amplitude that increases progressively along the signal path away from the input, as recited in independent claims 36 and 41. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

With respect to independent claim 42 Applicant respectfully submits that this claim recites reducing the output signal by a predefined factor or value. In contrast, Heikkila and other conventional methodologies either clamp the integrator output to a predetermined constant level or reset the integrator output to zero. In both of these conventional methodologies, signal information (of the state variable) is lost in an amplitude domain or a time domain.

In the invention recited in independent claim 42, a substantial part of the signal information of the integrator is retained because only a limited portion of the integrator output signal is lost. The technique for controlling integrator output generally recited in independent claim 1 may generally you refer as "soft-clamping" as set forth on page 13, lines 9-34 of the original specification, in connection with an example of calculation of the soft-clamping coefficient $\alpha(n)$.

Applicant respectfully submits that dependent claims 37-40 and 43-45 are allowable by virtue of their dependency on allowable independent claims 36 or 41, respectively, for at least the reasons set forth above.

35 U.S.C. § 103(a) HEIKKILA/PUTTHOFF REJECTION

Claims 43-45 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Heikkila in view of Putthoff. Applicant respectfully submits that Putthoff fails to make up for the deficiencies discussed above with respect to Heikkila in conjunction with independent claim 41. Accordingly, Applicant respectfully submits that dependent claims 43-45 are allowable for at least this reason.

Applicant respectfully submits that the soft-clamping technique of independent claim 42 is not taught or suggested by Heikkila. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

CONCLUSION

In view of the above amendments and remarks, reconsideration of the various rejections and allowance of claims 36-45 is respectfully requested.

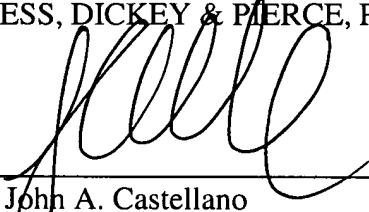
Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) hereby petition(s) for a one (1) month extension of time for filing a reply to the outstanding Office Action and submit the required \$110.00 extension fee herewith.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John A. Castellano at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies to charge payment or credit any overpayment to Deposit Account 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY & PIERCE, PLC

By 
John A. Castellano
Reg. No. 35,094

JAC:ybm/cah

P.O. Box 8910
Reston, VA 20195
(703) 668-8000